leaſt motion, particles are continually puſhed into the ſituation repreſented by A AND B FIG. 6.

8. Friction between a non-electric and an electric *per ſe*, will produce electrical fire; not by *creating*, but *collecting* it: for it is equally diffuſed in our walls, floors, earth, and the whole maſs of common matter. Thus the whirling glaſs globe, during its friction againſt the cuſhion, draws fire from the cuſhion, the cuſhion is ſupplied from the frame of the machine, that from the floor on which it ſtands. Cut off the communication by thick glaſs or wax placed under the cuſhion, and no fire can be *produced*, becauſe it cannot be *collected*.

9. The Ocean is a compound of water, a non-electric, and ſalt an electric *per ſe*.

10. When there is a friction among the parts near its ſurface, the electrical fire is collected from the parts below. It is then plainly viſible in the night; it appears at the ſtern and in the wake of every ſailing veſſel; every daſh of an oar ſhows it, and every ſurff and ſpray: in ſtorms the whole ſea ſeems on fire. --- The detach'd particles of water then repelled from the electrified ſurface, continually carry off the fire as it is collected; they riſe, and form clouds, and thoſe clouds are highly electrified, and retain the fire 'till they have an opportunity of communicating it.

11. The particles of water riſing in vapours, attach themſelves to particles of air.

12. The particles of air are ſaid to be hard, round, ſeparate and diſtant from each other; every particle ſtrongly repelling

repelling every other particle, whereby they recede from each other, as far as common gravity will permit.

13. The ſpace between any three particles equally repelling each other, will be an equilateral triangle.

14. In air compreſſed, theſe triangles are ſmaller; in rarified Air they are larger.

15. Common fire joined with air, increaſes the repulſion, enlarges the triangles, and thereby makes the air ſpecifically lighter. Such Air among denſer air, will riſe.

16. Common fire, as well as electrical fire gives repulſion to the particles of water, and deſtroys their attraction of coheſion; hence common fire, as well as electrical fire, aſſiſts in raiſing vapours.

17. Particles of water, having no fire in them, mutually attract each other. Three particles of water then being attached to the three particles of a triangle of air, would by their mutual attraction operating againſt the air's repulſion, ſhorten the ſides and leſſen the triangle, whereby that portion of air being made denſer, would ſink to the earth with its water, and not riſe to contribute to the formation of a cloud.

18. But if every particle of water attaching itſelf to air, brings with it a particle of common fire, the repulſion of the air being aſſiſted and ſtrengthened by the fire, more than obſtructed by the mutual attraction of the particles of water, the triangle dilates, and that portion of air becoming rarer and ſpecifically lighter riſes.

19 If the particles of water bring electrical fire when they

BENJAMIN FRANKLIN *Experiments and Observations on Electricity* LONDON, 1751 THE WARNOCK LIBRARY Octavo